

REMARKS

Claims 1-4, 7, 9-15 and 32 are pending in the present application. Claim 1 is in independent form. Withdrawn claims 16-27 and 29-31 have been cancelled. Claims 1-4, 7, 9, 10, 12-15 and 32 are amended. In view of the above amendments and the following remarks, favorable reconsideration and allowance of the present application is respectfully requested.

I. CLAIM AMENDMENTS

By the present Amendment, Applicants submit that claims 1-4, 7, 9, 10, 12-15 and 32 are amended to place the claims in better form for appeal, should an appeal be necessary. Thus, entry of the amendments is thus respectfully requested.

II. SPECIFICATION OBJECTION

The Specification stands objected to for allegedly introducing new matter into the disclosure. In particular, the rejection states that the term “plane” used in amended paragraph [0045] introduces new matter.

By the present Amendment, the objectionable term “plane” has been removed from the Specification.

Thus, the objection has been overcome. Withdrawal is therefore respectfully requested.

III. CITED ART GROUND OF REJECTION

(A) *Claims 1-4, 7, 9-15 and 32 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Chateau (hereinafter “Chateau”), U.S.*

Patent 4,071,315 in view of Chen et al. (hereinafter "Chen"), U.S. Publication No. 2001/0051714 A1 and in view of Gordon et al. (hereinafter "Gordon"), U.S. Publication No. 2001/0036641 A1. Applicants respectfully traverse the rejection.

i. INDEPENDENT CLAIM 1

Independent claim 1 is directed to a method for performing a high-throughput analysis, in which samples are analyzed in a continuous manner and in which biochips placed onto a substrate and having a plurality of measurement spots are used including (*inter alia*) "analyzing the sample liquid, wherein...electrical measurements are carried out from below the substrate with the aid of contact elements." Applicants submit that the combination of Chateau, Chen and Gordon fails to explicitly teach, or otherwise suggest, the above features recited in independent claim 1.

a. THE COMBINATION OF CHATEAU, CHEN AND GORDON

First, the rejection states that "[i]t is noted that the limitation 'in which biochips placed onto a substrate having a plurality of measurement spots are used' appears in the preamble of independent claim 1. Because the limitation is in the preamble, the phrase 'biochips placed onto a substrate' is not interpreted as a required active step of the claimed method." Action, p. 5.

However, Applicants remind the Examiner of MPEP §2111.02, which states that " '[i]f the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary

to give life, meaning, and vitality' to the claim, **then the claim preamble should be construed as if in the balance of the claim.**' *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999)." Emphasis added.

Furthermore, "[a]ny terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989)..."

For at least these reasons, Applicants submit that the "in which biochips placed onto a substrate and having a plurality of measurement spots are used" feature of independent claim 1 should be treated as a claim limitation.

Secondly, the rejection states that "...Chateau teaches a method for performing a high throughput analysis comprising the use of multiple biochips in the form of multiplicity of successive reaction areas 13 (column 5, lines 10-30 and column 4, lines 15-20)." Action, p. 5.

Chateau teaches that,

The tape as per the invention, intended for use as a medium for a chemical or biochemical reaction, for instance, as a means of analysis, has the special feature that it comprises at least a reaction area allowing of the fixation of at least one of the reaction substrate and data storage facilities, making it possible respectively to deposit and process several specimens placed side by side along the tape and to record simultaneously items of information regarding each specimen and/or the treatment which it is to be given.

Chateau, col. 2, ll. 57-66.

Thus, Chateau teaches the use of a tape 1, not "biochips" as recited in claim 1.

Third, the rejection further states that "Chateau also teaches analyzing the samples of measurement liquid, wherein applying and analyzing are effected simultaneously at different biochips; namely, depositing and processing (i.e., analyzing) of several side by side specimens (i.e., in different biochips 13) occurs simultaneously with the recording (i.e., measuring) of information regarding each specimen and the treatment that is given to each specimen (i.e., at each biochip 13; column 2, lines 57-67). Action, p. 6.

However, column 2, lines 57-66 (as provided above) relates to the preparation and spotting of specimens, not "electrical measurements" (as recited in claim 1) of the specimen.

Fourth, acknowledging other deficiencies of Chateau, the rejection states that "...Chateau does not explicitly teach the plurality of fixed reagents are spotted in an array (i.e., are formed as spots in an array; claim 1), nor does Chateau teach electrical measurements are carried out from below the substrate with the aid of contact elements; i.e., a tape having electrical contact element (claim 1)." Action, p. 6-7. Thus, the Examiner relies on Chen. The rejection states that Chen teaches "...the known technique of spotting molecules immobilized on a tape as well as the known teaching of using a substrate having electrical contact elements." Action, p. 7.

However, Chen teaches a flexible tape with spots, which are arranged one behind the other in a one-dimensional arrangement. Thus, an array with lines and gaps is not described.

Furthermore, the metallic electrode layer described in paragraph [0119] is for conducting electrophoresis. Thus, sample molecules charged in an electrical field (in the kilovolt range) are moved, wherein the electrical tracing occurs with a few volts. Applicants submit that carrying out “electrical measurements” (as recited in claim 1) is not the same as performing electrophoresis, as described in Chen.

The rejection further states that “Chen et al teach the probe tape is read for electrical conductance (paragraph 0162).” Action, p. 8.

In paragraph [0162] of Chen states that “[s]canning can be carried out by...electrical conductance...imaging.” Thus, electrical conductance imaging is not the same as carrying out “electrical measurements” (as recited in claim 1). An electrochemical measurement for reading out individual spots via electrodes is not described in Chen.

For at least these reasons, Applicants submit that Chen fails to remedy the deficiencies of Chateau with respect to independent claim 1.

Fifth, further acknowledging the deficiencies of Chateau and Chen, the rejection states that Gordon teaches “...the known technique of using electrically addressable biochips (i.e., claim 12) having electrical contact elements for measurements to be carried out from below the substrate (i.e., claim 1).” Action, p. 9.

However, Gordon, directed to a method of carrying multiple chemical reactions, fails to describe conducting the reactions on a tape. Thus, there is no motivation to combine the teachings of Gordon with Chateau or Chen.

Furthermore, Gordon fails to teach, or suggest, (i) the measurement of several biochips, or (ii) carrying out measurement from the back of the chip or from the back a tape.

Thus, not only is there no motivation to combine the teaching of Gordon with Chateau, Gordon fails to remedy the above-noted deficiencies of Chateau with respect to independent claim 1.

For at least these reasons, Applicants submit that Chateau in view of Chen and Gordon fails to explicitly teach, or otherwise suggest, a method for performing a high-throughput analysis, in which samples are analyzed in a continuous manner and in which biochips placed onto a substrate and having a plurality of measurement spots are used including (*inter alia*) "analyzing the sample liquid, wherein...electrical measurements are carried out from below the substrate with the aid of contact elements" as recited in independent claim 1.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to independent claim 1, and claims 2-4, 7, 9-15 and 32 at least by virtue of its dependency on independent claim 1.

IV. CORRESPOND GERMAN APPLICATION

In the event that it would help with the advancement the prosecution of the present application, Applicants note that the corresponding German patent application has issued as German Patent DE 102 33 212 B4.

CONCLUSION

Accordingly, in view of the above, reconsideration of the objection and rejections and allowance of each of claims 1-4, 7, 9-15 and 32 in connection with the present application is earnestly solicited.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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